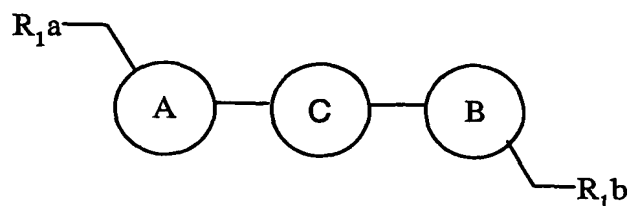


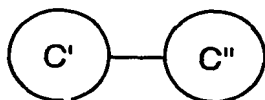
Claims

1. A compound of the formula (I), or a pharmaceutically-acceptable salt, or an in-vivo-hydrolysable ester thereof,

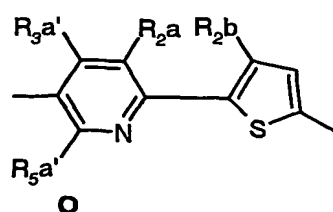
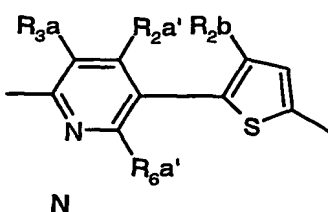
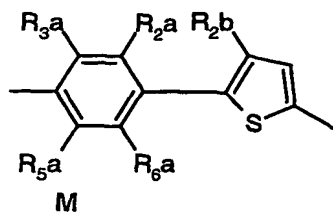
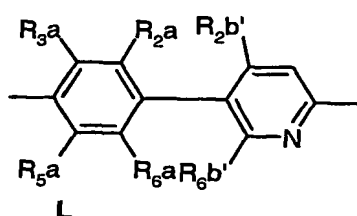
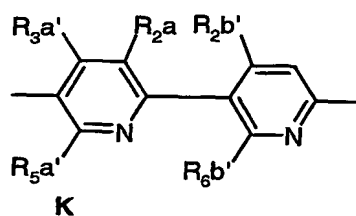
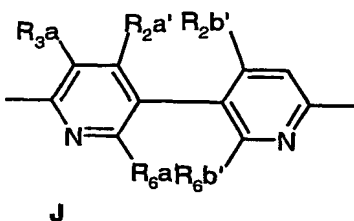
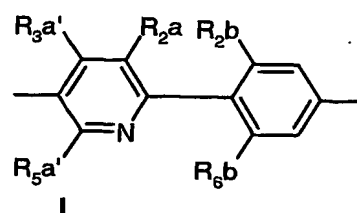
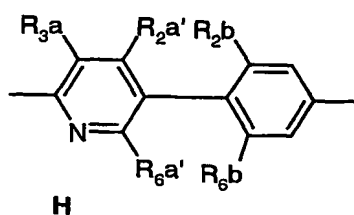
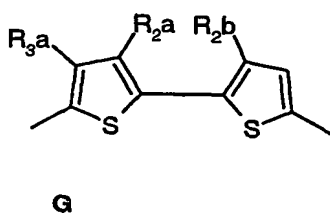
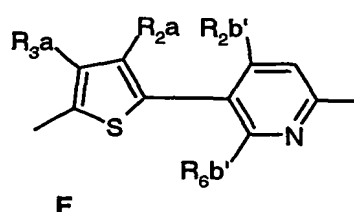
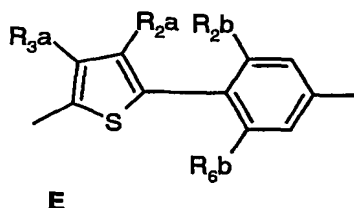
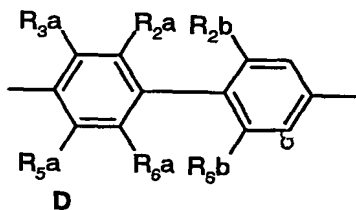


(I)

wherein in (I) C is a biaryl group C'-C''



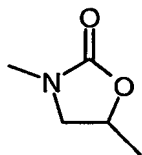
where C' and C'' are independently aryl or heteroaryl rings such that the group C is represented by any one of the groups D to O below:



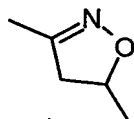
wherein the groups D to O are attached to rings A and B orientation [(A-C') and (C''-B)] shown and

wherein A and B are independently selected from

i)



ii)



and

5

wherein i) and/or ii) are linked as shown in (I) via the 3-position to group C and substituted in the 5-position as shown in (I) by $-\text{CH}_2-\text{R}_{1a}$ and $-\text{CH}_2-\text{R}_{1b}$;

R_{2b} and R_{6b} are independently selected from H, F, Cl, OMe, Me, Et and CF_3 ;

10 $\text{R}_{2b'}$ and $\text{R}_{6b'}$ are independently selected from H, OMe, Me, Et and CF_3 ;

R_{2a} and R_{6a} are independently selected from H, Br, F, Cl, OMe, SMe, Me, Et and CF_3 ;

$\text{R}_{2a'}$ and $\text{R}_{6a'}$ are independently selected from H, OMe, SMe, Me, Et and CF_3 ;

R_{3a} and R_{5a} are independently selected from H, (1-4C)alkyl, Br, F, Cl, OH, (1-4C)alkoxy, $-\text{S}(\text{O})_n(1-4\text{C})\text{alkyl}$ (wherein $n = 0, 1, \text{ or } 2$), amino, (1-4C)alkylcarbonylamino, nitro, cyano,

15 $-\text{CHO}$, $-\text{CO}(1-4\text{C})\text{alkyl}$, $-\text{CONH}_2$ and $-\text{CONH}(1-4\text{C})\text{alkyl}$;

$\text{R}_{3a'}$, $\text{R}_{5a'}$ are independently selected from H, (1-4C)alkyl, OH, (1-4C)alkoxy,

(1-4C)alkylthio, amino, (1-4C)alkylcarbonylamino, nitro, cyano, $-\text{CHO}$, $-\text{CO}(1-4\text{C})\text{alkyl}$,

$-\text{CONH}_2$ and $-\text{CONH}(1-4\text{C})\text{alkyl}$;

wherein any (1-4C)alkyl group may be optionally substituted with F, OH, (1-4C)alkoxy,

20 $-\text{S}(\text{O})_n(1-4\text{C})\text{alkyl}$ (wherein $n = 0, 1, \text{ or } 2$) or cyano;

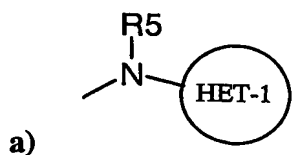
wherein at least one of $\text{R}_{2a'}$, $\text{R}_{6a'}$, R_{3a} , R_{5a} , $\text{R}_{3a'}$, and $\text{R}_{5a'}$ is not H;

wherein when ring C' is a pyridine ring (ie when group C is group H, I, J, K, N or O) the ring nitrogen may optionally be oxidised to an N-oxide;

R_{1a} and R_{1b} are independently selected from hydroxy, $-\text{OSi}(\text{tri}-(1-6\text{C})\text{alkyl})$ (wherein the 3

25 (1-6C)alkyl groups are independently selected from all possible (1-6C)alkyl groups),

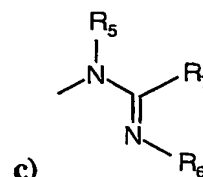
$-\text{NR}_5\text{C}(=\text{W})\text{R}_4$, $-\text{OC}(=\text{O})\text{R}_4$,



, b)



and



wherein W is O or S;

R₄ is hydrogen, amino, (1-8C)alkyl, -NHR₁₂, -N(R₁₂)(R₁₃), -OR₁₂ or -SR₁₂, (2-4C)alkenyl, (1-8C)alkylaryl, mono-, di-, tri- and per-halo(1-8C)alkyl, -(CH₂)_p(3-6C)cycloalkyl or -(CH₂)_p(3-6C)cycloalkenyl wherein p is 0, 1 or 2; and wherein at each occurrence, alkyl,

5 alkenyl, cycloalkyl cycloalkenyl in substituents in R₄ is optionally substituted with one, two, three or more F, Cl or CN;

R₅ is hydrogen, (3-6C)cycloalkyl, phenyloxycarbonyl, tert-butoxycarbonyl, fluorenyloxycarbonyl, benzyloxycarbonyl, (1-6C)alkyl (optionally substituted by cyano or (1-4C)alkoxycarbonyl), -CO₂R₈, -C(=O)R₈, -C(=O)SR₈, -C(=S)R₈, P(O)(OR₉)(OR₁₀) and

10 -SO₂R₁₁, wherein R₈, R₉, R₁₀ and R₁₁ are as defined hereinbelow;

HET-1 is selected from HET-1A and HET-1B wherein:

HET-1A is a C-linked 5-membered heteroaryl ring containing 2 to 4 heteroatoms

independently selected from N, O and S; which ring is optionally substituted on a C atom by an oxo or thioxo group; and/or which ring is optionally substituted on any available C atom

15 by one or two substituents selected from RT as hereinafter defined and/or on an available nitrogen atom, (provided that the ring is not thereby quaternised) by (1-4C)alkyl;

HET-1B is a C-linked 6-membered heteroaryl ring containing 2 or 3 nitrogen heteroatoms, which ring is optionally substituted on a C atom by an oxo or thioxo group; and/or which ring is optionally substituted on any available C atom by one, two or three substituents selected

20 from RT as hereinafter defined and/or on an available nitrogen atom, (provided that the ring is not thereby quaternised) by (1-4C)alkyl;

HET-2 is selected from HET-2A and HET-2B wherein

HET-2A is an N-linked 5-membered, fully or partially unsaturated heterocyclic ring, containing either (i) 1 to 3 further nitrogen heteroatoms or (ii) a further heteroatom selected

25 from O and S together with an optional further nitrogen heteroatom; which ring is optionally substituted on a C atom, other than a C atom adjacent to the linking N atom, by an oxo or thioxo group; and/or which ring is optionally substituted on any available C atom, other than a C atom adjacent to the linking N atom, by a substituent selected from RT as hereinafter defined and/or on an available nitrogen atom, other than a N atom adjacent to the linking N

30 atom, (provided that the ring is not thereby quaternised) by (1-4C)alkyl;

HET-2B is an N-linked 6-membered di-hydro-heteroaryl ring containing up to three nitrogen heteroatoms in total (including the linking heteroatom), which ring is substituted on a suitable C atom, other than a C atom adjacent to the linking N atom, by oxo or thioxo and/or which

ring is optionally substituted on any available C atom, other than a C atom adjacent to the linking N atom, by one or two substituents independently selected from RT as hereinafter defined and/or on an available nitrogen atom, other than a N atom adjacent to the linking N atom, (provided that the ring is not thereby quaternised) by (1-4C)alkyl;

5 RT is selected from a substituent from the group:

(RTa1) hydrogen, halogen, (1-4C)alkoxy, (2-4C)alkenyloxy, (2-4C)alkenyl, (2-4C)alkynyl, (3-6C)cycloalkyl, (3-6C)cycloalkenyl, (1-4C)alkylthio, amino, azido, cyano and nitro; or

(RTa2) (1-4C)alkylamino, di-(1-4C)alkylamino, and (2-4C)alkenylamino;

10 or RT is selected from the group

(RTb1) (1-4C)alkyl group which is optionally substituted by one substituent selected from hydroxy, (1-4C)alkoxy, (1-4C)alkylthio, cyano and azido; or

(RTb2) (1-4C)alkyl group which is optionally substituted by one substituent selected from (2-4C)alkenyloxy, (3-6C)cycloalkyl, and (3-6C)cycloalkenyl;

15 or RT is selected from the group

(RTc) a fully saturated 4-membered monocyclic ring containing 1 or 2 heteroatoms independently selected from O, N and S (optionally oxidised), and linked via a ring nitrogen or carbon atom;

and wherein at each occurrence of an RT substituent containing an alkyl, alkenyl, alkynyl,

20 cycloalkyl or cycloalkenyl moiety in (RTa1) or (RTa2), (RTb1) or (RTb2), or (RTc) each such moiety is optionally substituted on an available carbon atom with one, two, three or more substituents independently selected from F, Cl, Br, OH and CN;

R₆ is cyano, -COR₁₂, -COOR₁₂, -CONHR₁₂, -CON(R₁₂)(R₁₃), -SO₂R₁₂, -SO₂NHR₁₂, -SO₂N(R₁₂)(R₁₃) or NO₂, wherein R₁₂ and R₁₃ are as defined hereinbelow;

25 R₇ is hydrogen, amino, (1-8C)alkyl, -NHR₁₂, -N(R₁₂)(R₁₃), -OR₁₂ or -SR₁₂, (2-4C)alkenyl, (1-8C)alkylaryl, mono-, di-, tri- and per-halo(1-8C)alkyl, -(CH₂)_p(3-6C)cycloalkyl or -(CH₂)_p(3-6C)cycloalkenyl wherein p is 0, 1 or 2;

R₈ is hydrogen, (3-6C)cycloalkyl, phenyl, benzyl, (1-5C)alkanoyl, (1-6C)alkyl (optionally substituted by substituents independently selected from (1-5C)alkoxycarbonyl, hydroxy,

30 cyano, up to 3 halogen atoms and -NR₁₅R₁₆ (wherein R₁₅ and R₁₆ are independently selected from hydrogen, phenyl (optionally substituted with one or more substituents selected from halogen, (1-4C)alkyl and (1-4C)alkyl substituted with one, two, three or more halogen atoms) and (1-4C)alkyl (optionally substituted with one, two, three or more halogen atoms), or for

any N(R₁₅)(R₁₆) group, R₁₅ and R₁₆ may additionally be taken together with the nitrogen atom to which they are attached to form a pyrrolidinyl, piperidinyl or morpholinyl ring);

R₉ and R₁₀ are independently selected from hydrogen and (1-4C)alkyl;

R₁₁ is (1-4C)alkyl or phenyl;

- 5 R₁₂ and R₁₃ are independently selected from hydrogen, phenyl (optionally substituted with one or more substituents selected from halogen, (1-4C)alkyl and (1-4C)alkyl substituted with one, two, three or more halogen atoms) and (1-4C)alkyl (optionally substituted with one, two, three or more halogen atoms), or for any N(R₁₂)(R₁₃) group, R₁₂ and R₁₃ may additionally be taken together with the nitrogen atom to which they are attached to form a pyrrolidinyl,
- 10 piperidinyl or morpholinyl ring which ring may be optionally substituted by a group selected from (1-4C)alkyl, (1-4C)cycloalkyl, (1-4C)acyl, -COO(1-4C)alkyl, S(O)_n(1-4C)alkyl (wherein n = 1 or 2), -CS(1-4C)alkyl and -C(=S)O(1-4C)alkyl.

2. A compound of the formula (I) or a pharmaceutically-acceptable salt, or in-vivo
- 15 hydrolysable ester thereof, as claimed in claim 1 wherein group C is represented by any one of groups D, E, H and I.

3. A compound of the formula (I) or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, as claimed in claim 1 or claim 2, wherein group C is represented
- 20 by group D.

4. A compound of the formula (I) or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, as claimed in claim 1 or claim 2, wherein group C is represented by group H.

25

5. A compound of the formula (I) or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, as claimed in claim 3 wherein R_{3a} is methoxy, methyl or fluoro and R_{5a} is hydrogen.

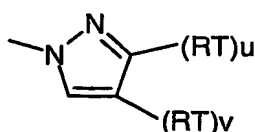
- 30 6. A compound of the formula (I) or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, as claimed in claim 4 wherein R_{3a} is methoxy, methyl or fluoro and R_{2a}' and R_{6a}' are hydrogen; or R_{3a} and R_{2a}' are hydrogen and R_{6a}' is methyl or methoxy.

7. A compound of the formula (I) or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, as claimed in any one of the preceding claims wherein R_{1a} and R_{1b} are independently selected from $-NHCO(1-4C)alkyl$, $-NHCO(1-4C)cycloalkyl$, $-NHCS(1-4C)alkyl$, $-N(R_5)-HET-1$ and $HET-2$.

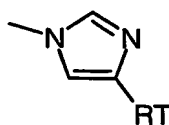
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8. A compound of the formula (I) or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, as claimed in any one of the preceding claims, wherein R_{1a} and R_{1b} are independently selected from hydroxy, $-NHCO(1-4C)alkyl$, and $HET-2$.

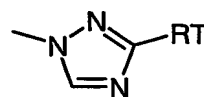
10 9. A compound of the formula (I) or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, as claimed in any one of the preceding claims, wherein $HET-2A$ is selected from the structures (Za) to (Zf) below:



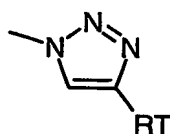
(Za)



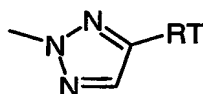
(Zb)



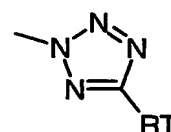
(Zc)



(Zd)



(Ze)



(Zf)

15 wherein u and v are independently 0 or 1.

10. A compound of the formula (I) or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, as claimed in claim 9 wherein RT is selected from

(a) hydrogen;

20 (b) halogen;

(c) cyano;

(d) $(1-4C)alkyl$;

(e) monosubstituted $(1-4C)alkyl$;

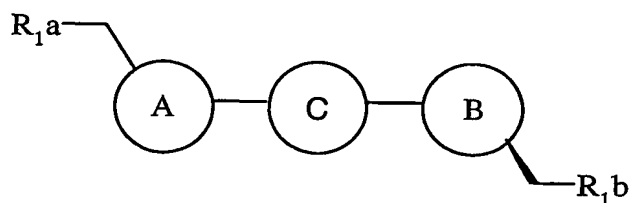
(f) disubstituted $(1-4C)alkyl$, and

25 trisubstituted $(1-4C)alkyl$.

11. A compound of the formula (I) or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, as claimed in any one of the preceding claims wherein at least one of A and B is an oxazolidinone.

5 12. A compound of the formula (I) or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, as claimed in any one of the preceding claims wherein both A and B are oxazolidinones.

13. A compound of the formula (Ia) or a pharmaceutically-acceptable salt, or in-vivo
10 hydrolysable ester thereof, as claimed in any preceding claim.



(Ia)

14. A pro-drug of a compound as claimed in any one of the preceding claims.

15

15. A method for producing an antibacterial effect in a warm blooded animal which comprises administering to said animal an effective amount of a compound of the invention as claimed in any one of claims 1 to 14, or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof.

20

16. A compound of the invention as claimed in any one of claims 1 to 14, or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, for use as a medicament.

25 17. The use of a compound of the invention as claimed in any one of claims 1 to 14, or a pharmaceutically-acceptable salt, or in-vivo hydrolysable ester thereof, in the manufacture of a medicament for use in the production of an antibacterial effect in a warm blooded animal.

18. A pharmaceutical composition which comprises a compound of the invention as claimed in any one of claims 1 to 14, or a pharmaceutically-acceptable salt or an in-vivo hydrolysable ester thereof, and a pharmaceutically-acceptable diluent or carrier.

19. A process for the preparation of a compound of formula (I) as claimed in claim 1 or pharmaceutically acceptable salts or in-vivo hydrolysable esters thereof, which process comprises one of processes (a) to (h); and thereafter if necessary:

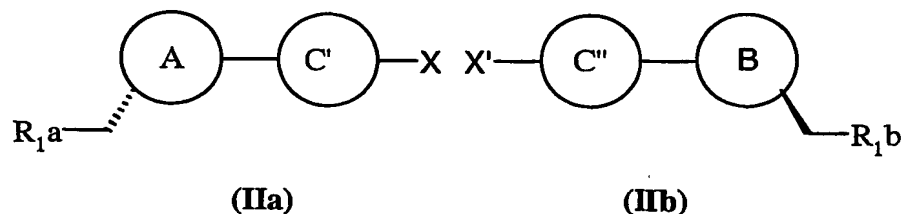
- i) removing any protecting groups;
- ii) forming a pro-drug (for example an in-vivo hydrolysable ester); and/or

10 iii) forming a pharmaceutically-acceptable salt;

wherein said processes (a) to (h) are:

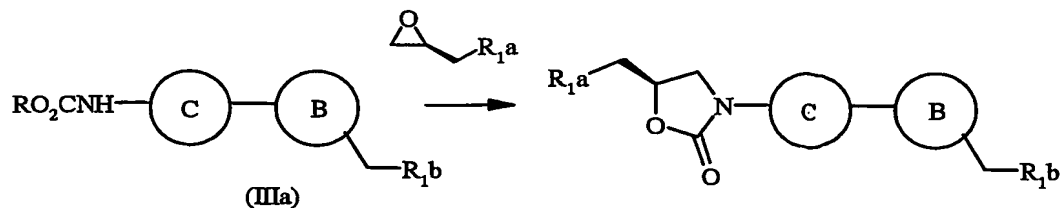
(a) modifying a substituent in, or introducing a substituent into another compound of the invention by using standard chemistry;

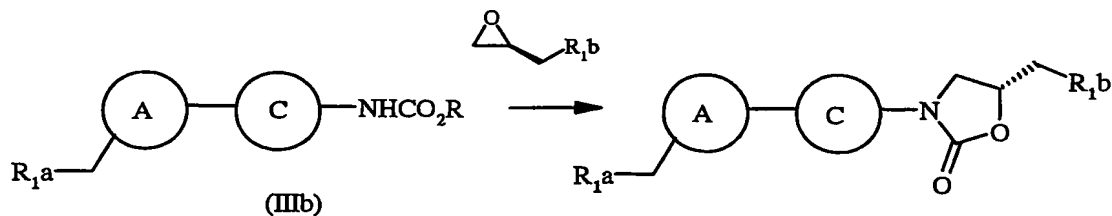
15 (b) reaction of a molecule of a compound of formula (IIa) with a molecule of a compound of formula (IIb), wherein X and X' are leaving groups useful in palladium coupling and are chosen such that an aryl-aryl, heteroaryl-aryl, or heteroaryl-heteroaryl bond replaces the aryl-X (or heteroaryl-X) and aryl-X' (or heteroaryl-X') bonds;



20

c) reaction of a (hetero)biaryl derivative (IIIa) or (IIIb) carbamate with an appropriately substituted oxirane to form an oxazolidinone ring at the undeveloped aryl position

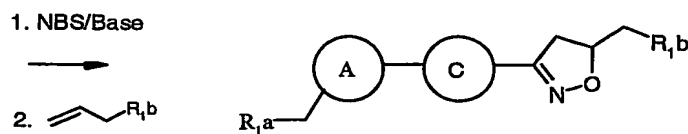
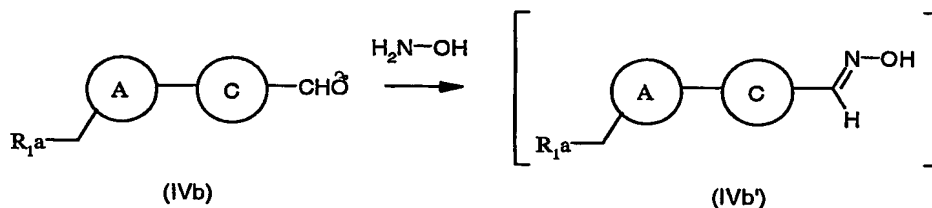
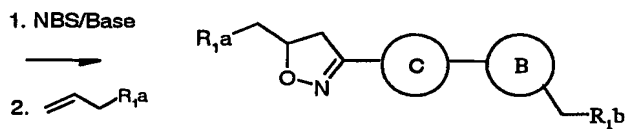
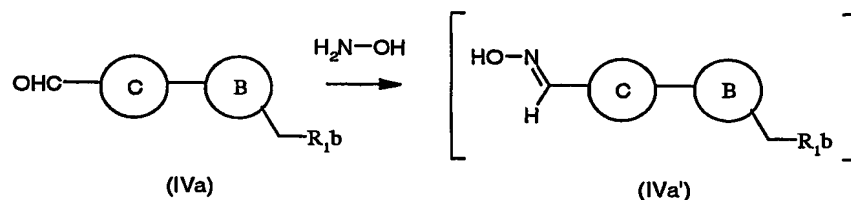




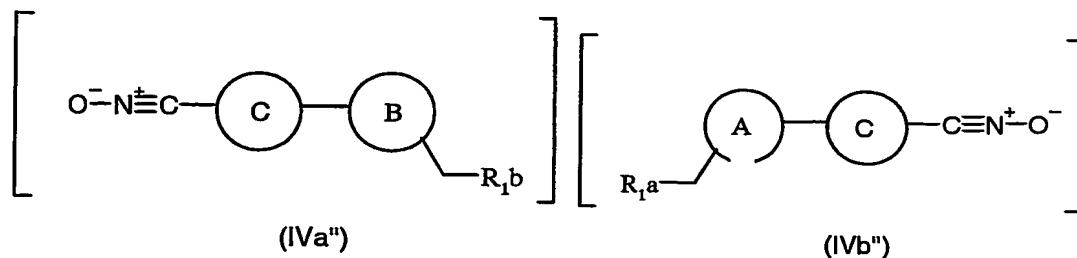
or by variations on this process in which the carbamate is replaced by an isocyanate or by an amine or/and in which the oxirane is replaced by an equivalent reagent X-CH₂CH(O-

5 optionally protected)CH₂R_{1a} or X-CH₂CH(O-optionally protected)CH₂R_{1b} where X is a displaceable group;

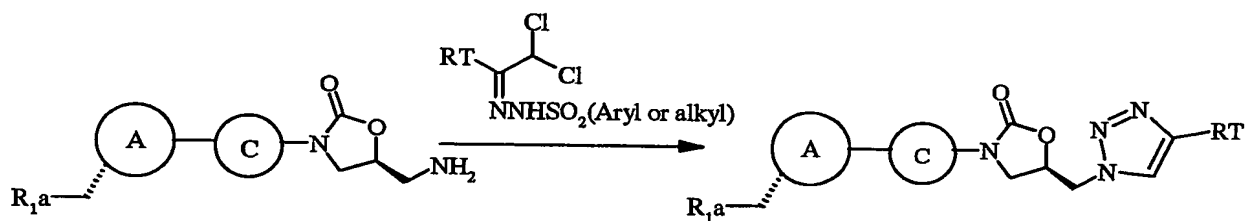
d) reaction of a (hetero)biaryl derivative (IVa) or (IVb) to form an isoxazoline ring at the undeveloped aryl position;



or by variations on this process in which the reactive intermediate (a nitrile oxide IVa'' or IVb'') is obtained other than by oxidation of an oxime (IVa') or (IVb');

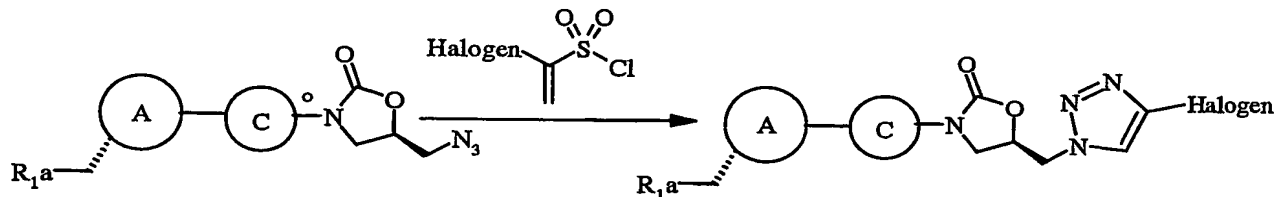


- (e) for HET as optionally substituted 1,2,3-triazoles, compounds of the formula (I) by cycloaddition via the azide to acetylenes, or to acetylene equivalents such as optionally substituted cyclohexa-1,4-dienes or optionally substituted ethylenes bearing eliminatable substituents such as arylsulfonyl;
- (f) for HET as 4-substituted 1,2,3-triazole compounds of formula (I) by reacting aminomethyloxazolidinones with 1,1-dihaloketone sulfonylhydrazones



- 10 (g) for HET as 4-substituted 1,2,3-triazole compounds of formula (I), by reacting azidomethyl oxazolidinones with terminal alkynes using Cu(I) catalysis to give 4-substituted 1,2,3-triazoles

- (h) for HET as 4-halogenated 1,2,3-triazole compounds of formula (I) may also be made by reacting azidomethyl oxazolidinones with halovinylsulfonyl chlorides at a temperature between 0 °C and 100 °C either neat or in an inert diluent, as shown below



20. A pharmaceutical composition as claimed in claim 18, wherein said composition includes a vitamin.

21. A pharmaceutical composition as claimed in claim 20 wherein said vitamin is Vitamin B.
- 5 22. A pharmaceutical composition as claimed in claim 18, wherein said composition comprises a combination of a compound of the formula (I) and an antibacterial agent active against gram-positive bacteria.
- 10 23. A pharmaceutical composition as claimed in claim 18, wherein said composition comprises a combination of a compound of the formula (I) and an antibacterial agent active against gram-negative bacteria.